Claims

1. An imaging device comprising:

an optical system means in which three components of visible light and near infrared light in different wavelength regions severally form images at different locations according to their wavelengths; and

an imaging element which has a plurality of pixels;

wherein said plurality of pixels include pixels having a visible light detection means and pixels having a near infrared light detection means, said visible light detection means detecting said three components of visible light which form images at locations of different depths in the same pixel according to their wavelengths, said near infrared light detection means detecting near infrared light which forms an image in a pixel at a location of a depth different from the depths at which said three components of visible light form images.

2. The imaging device according to claim 1, wherein said visible light detection means has three detectors which are provided at locations of different depths according to wavelength dependence of light absorption depth and detect visible light in three different wavelength regions of blue, green, and red, and said near infrared light detection means has a detector which is provided at a location of a depth different from the depths of said three detectors and detects near infrared light.

3. The imaging device according to claim 1, wherein said imaging

element has a configuration in which pixels having said visible light detection means and pixels having said near infrared light detection means are alternately arranged in rows and columns.

4. The imaging device according to claim 1, wherein said imaging element has a configuration in which pixels having said visible light detection means and pixels having said near infrared light detection means are uniformly arranged such that the number ratio of the pixels is one to three.

5. The imaging device according to claim 1, wherein said imaging element has a configuration in which pixels having said visible light detection means and pixels having said near infrared light detection means are uniformly arranged such that the area ratio of the pixels is one to three.

6. An imaging device comprising:
an optical system means in which three components of visible light and near infrared light in different wavelength regions severally form images at different locations according to their wavelengths; and
an imaging element which has a plurality of pixels;
wherein said plurality of pixels detect said three components of visible light and said near infrared light which severally form images at locations of different depths in the same pixel according to their wavelengths.

7. The imaging device according to claim 6, wherein said plurality of pixels detect three components of visible light of blue, green, and red and near infrared light by means of four detectors which are provided at locations of different depths according to wavelength dependence of light absorption depth.

8. The imaging device according to claim 1, wherein said optical system means provides a focal length which monotonously increases according to wavelengths of light from short-wavelength visible light to near infrared light so that visible light in three different wavelength regions of blue, green, and red and near infrared light form images at different locations.

9. The imaging device according to claim 7, wherein said optical system means provides a focal length which monotonously increases according to wavelengths of light from short-wavelength visible light to near infrared light so that visible light in three different wavelength regions of blue, green, and red and near infrared light form images at different locations.

10. An imaging method comprising:
making three components of visible light and near infrared light in different wavelength regions severally form images at different locations according to their wavelengths;
detecting said three components of visible light and said near infrared

light using the fact that wavelength dependence of light absorption depth varies; and

imaging pictures of both said three components of visible light and said near infrared light.